# CURRICULUM VITAE
# MICHAEL DAVID ARTHUR THOMAS

## PERSONAL INFORMATION

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| Rank: | Professor |
| Status: | Tenured |
| Date of Birth: | 1/8/60 |

## UNIVERSITY EDUCATION

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|---|---|---|---|
| PhD | Civil Engineering | University of Aston | 1987 |
| PGCE | Teaching Certificate | University of Nottingham | 1983 |
| BSc | Civil Engineering | University of Nottingham | 1982 |

## EMPLOYMENT

| Dates | Position | Institution |
|---|---|---|
| July 2014 – date | Department Chair | Department of Civil Engineering<br>University of New Brunswick |
| July 2002 – date | Professor | Department of Civil Engineering<br>University of New Brunswick |
| Jan 2004 – date | President | C&CS Atlantic Inc. |
| July 2001 – June 2002 | Professor | Department of Civil Engineering<br>University of Toronto |
| July 1997 – June 2001 | Associate Professor | Department of Civil Engineering<br>University of Toronto |
| May 1994 – June 1997 | Assistant Professor | Department of Civil Engineering<br>University of Toronto |
| Nov 1993 – Dec 2003 | President | Cement & Concrete Studies Ltd.<br>Toronto, Ont. |
| Sep 1993 - Apr 1994 | Adjunct Professor | Department of Civil Engineering, |

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| | | University of Toronto |
| Nov 1991 - Oct 1993 | Research Engineer | Civil Research Department, Ontario Hydro, Toronto, Ont. |
| Aug 1991 - Oct 1991 | Consultant | Building Research Establishment, Garston, Herts, U.K. |
| Aug 1986 - Jul 1991 | Research Fellow (Seconded to Building Research Establishment, U.K.) | Department of Materials, Imperial College, London, U.K. |
| May 1990 - Jul 1991 | Retained Consultant | National Power, U.K. |
| Jul 1983 - Jun 1986 | Research Assistant | Department of Civil Engineering, University of Aston |
| Sep 1986 - May 1987 | Lecturer (Part-time) | Dunstable College of Further Education, Dunstable, U.K. |
| Sep 1983 - May 1985 | Lecturer (Part-time) | Great Barr Technical College, Birmingham, U.K. |

## AWARDS & HONOURS

- ACI Wason Medal for 2014
- Fellow of the Institute of Concrete Technology 2012
- CSA Award of Merit for 2011
- ACI Wason Medal for 2009
- Member of Executive Committee of ASTM C-09 Concrete & Aggregates (2007/9)
- Fellow of the American Concrete Institute 2006
- Engineering Foundation Endowed Lectureship 2001 (University of Texas)
- ACI Construction Practice Award for 2000.
- Thomas Barton Award, October 1997 (Best Paper)
- ACI Wason Medal for 1996.
- Winner of 1993 Director's Fund Competition, Ontario Hydro.
- CEGB Research Fellowship, Imperial College, London, U.K.
- Awarded Thomas Telford Premium by Institution of Civil Engineers for paper published in the Proceedings of the Institution, 1989.

## SCHOLARLY AND PROFESSIONAL ACTIVITIES

- Association of Professional Engineers and Geophysicists of New Brunswick (P.Eng.) since 2002 (previously registered in Ontario)
- Member Canadian Standards Association (CSA)
- Member (Fellow) of American Concrete Institute (ACI) & Atlantic Chapter
- Member (Fellow) of the Institute of Concrete Technology (ICT)
- Member of American Society of Testing and Materials (ASTM)
- Member of Atlantic Provinces Ready-Mixed Concrete Association

## PATENTS

"Cement Composition for Alkali-Reactive Aggregates and for Sulphate Resistance." with D. Oates, P. Zacarias, D. Hopkins and K. Cail of Lafarge Corporation. Granted in U.S. and Canada. Patent # 5928420.

"Computed Tomography Determination of Parameters of the Air-Void System in Concrete." With D. Wiese and Enhanced Vision Systems Corp, Provisional Patent filed Dec. 1999.

## SERVICE ON TECHNICAL COMMITTEES

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|---|---|
| American Concrete Institute (ACI) | 201 Durability (Chair of Task Group on AAR) |
| | 221 Aggregates |
| | 232 Fly Ash (Vice-Chair) |
| | 233 Slag |
| | 234 Silica Fume |
| | 236 Materials Science |
| | 301 Specifications for Concrete |
| | 308 Curing (Subcommittee Chair) |
| | 365 Service Life (previous Chair) |
| Canadian Standards Association (CSA) | A3000 Committee on Hydraulic Cement (Chair of Task Group Alternative SCMs, Previous Chair of Subcommittee on Fly Ash)) |
| | A23 Committee on Concrete Materials and Methods of Construction (Chair of Subcommittee on Concrete with Special Performance Requirements) |
| | A3000 Task Force on Management of Structures Affected by AAR |
| American Society of Testing and Materials | Committee C 09 on Concrete |
| | Committee C 01 on Cement |

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| Transportation Research Board | Committee AFN30 Durability of Concrete |
| RILEM | Technical Committee on ASR |

## SERVICE TO PROFESSION

Associate Editor of the international journal *Cement & Concrete Research* (November 2011 – December 2015).

Member of Organizing Committee of the *14th International Conference of Alkali-Aggregate Reaction in Concrete*. To be held in Austin, Tx, May 2012.

Chair of the *1st International / 1st Specialty Conference on Engineering Mechanics and Materials* at the Annual Meeting of the Canadian Society of Civil Engineers (CSCE) in St. John's, Newfoundland, in May 2009

Editorial Board of the Journal of *Cement and Concrete Research* (2009 - date)

Member of NSERC Grant Selection Committee (2002-04)

Associate Editor of *Canadian Journal of Civil Engineering* (until 2007)

Past-President of the Ontario Chapter of the American Concrete Institute.

Co-chair of Engineering Foundation Conference on *Advances in Cement and Concrete* held in Banff in August 1998.

Chair of Seminar on *High-Performance Concrete* held in Toronto in September 1999.

Co-chair of *International Conference on Ion and Mass Transport in Concrete* held at the University of Toronto in October 1999.

Co-chair of ASTM Symposium on *Pozzolans and Slag (Essential Components of Concrete in the 21st Century)*, New Orleans, December 1999.

Faculty Advisor to University of Toronto Student Chapter of the Canadian Society of Civil Engineers.

## SELECTED CONSULTING ASSIGNMENTS

Sub-contractor for Federal Highways Administration developing guidelines and protocols for evaluating aggregate reactivity and preventive measures, and for mitigating expansion and damage in existing ASR-affected structures.

Retained by FMC Corporation (U.S.), Boral Materials Technologies (U.S.), and the Building Research Establishment (U.K.) to provide advice on research programs related to alkali-silica reaction (ASR).

Retained by Trow Consulting Engineers to advise on projects related to concrete technology and materials (1995 - 2002). Projects include evaluation (e.g. analysis of diffusion data) of candidate mixes for the TTC tunnel segments, evaluation of non-traditional by-products (e.g. non-ferrous slags, mine tailings) for potential use in concrete, and development of tools for service-life prediction.

Retained by Lafarge North America on various projects related to the durability of concrete, delivering training courses and providing expert advice in litigation.

Advisor to Building Research Establishment, U.K., on research related to alkali-aggregate reaction in concrete and, more recently, service-life predictions for reinforced concrete.

Advisor to Shaw Resources, Nova Scotia, on the use of fly ash for the Confederation Bridge (1994).

Contract with industry consortium (members are Master Builders, Grace, Silica Fume Association and Portland Cement Association) to develop a service-life and life-cycle-cost model for evaluating various strategies for protecting reinforced concrete in chloride environments – output was the model Life-365.

Retained by Arup to advise on service life design for the Walsh Bay Development in Sydney, Australia.

Contract with the Portland Cement Association to produce "distant-learning" CR-ROMS on concrete materials.

Consultant for Wiss, Janney, Elstner (Austin, Texas) on project for California Transportation Department to provide guidelines for minimizing risk of ASR.

Contract with U.S. Federal Highways Administration to provide guidelines and workshop materials for using lithium in concrete.

Consultant for DMJM Aviation on project to investigate concrete problems at Denver International Airport and provide estimate of residual service life.

Retained on numerous litigation cases to provide expert testimony.

## TECHNICAL PUBLICATIONS

### *Refereed Journal Articles (Accepted, in press or published):*

A1. Moffatt, E.G. and Thomas, M.D.A. 2017. Performance of rapid-repair concrete in an aggressive marine environment. Construction and Building Materials, 132, pp. 478-486

A2. Yi, H. and Thomas, M.D.A. 2016. "Effect of surface preparation on the de-icing and salt-scaling resistance of concrete with and without SCM: laboratory and field performance in the presence of sodium chloride de-icing salt." Advances in Civil Engineering Materials, Vol. 5 (2), pp. 80-96.

A3. Rajabipour, F., Giannini, E., Dunant, C., Ideker, J.H. and Thomas, M.D.A. 2015. "Alkali–silica reaction: Current understanding of the reaction mechanisms and the knowledge gaps." Cement and Concrete Research, Vol. 76, pp. 130–146.

A4. Hossack, A.M. and Thomas, M.D.A. 2015. "The effect of temperature on the rate of sulfate attack of Portland cement blended mortars in $Na_2SO_4$ solution." Cement and Concrete Research, Vol. 76, pp. 136-142.

A5. Hossack, A.M. and Thomas, M.D.A. 2015. "Varying fly ash and slag contents in Portland limestone cement mortars exposed to external sulfates." Construction and Building Materials, Vol. 78, pp. 333–341.

A6. Hossack, A.M. and Thomas, M.D.A. 2015. "Evaluation of the Effect of Tricalcium Aluminate Content on the Severity of Sulfate Attack in Portland Cement and Portland Limestone Cement Mortars." Cement & Concrete Composites, Vol. 56, pp. 115–120.

A7. Hossack, A., Thomas, M.D.A., Barcelo, L., Blair, B. and Delagrave, A. 2014. "Performance of Portland Limestone Cement Concrete Pavements." Concrete International, Vol. 36 (1).

A8. Barcelo, L., Gartner, E., Barbarulo, R., Hossack, A., Ahani, R., Thomas, M., Hooton, R., Brouard, E., Delagrave, A., Blair, B. 2014. "A modified ASTM C1012 procedure for qualifying blended cements containing limestone and SCMs for use in sulfate-rich environments." Cement and Concrete Research, Volume 63, September, Pages 75–88.

A9. Barcelo, L., Blair, B., Delagrave, A., Innis, A., Knight, G., Thomas, M.D.A. and Weiss, J. 2013. "The Five W's and One H of Portland Limestone Cement (PLC)." Concrete International, Vol. 35 (11).

A10. Barcelo, L., Thomas, M.D.A., Cail, K., Delagrave, A. and Blair, B. 2013. "Portland Limestone Cement Equivalent Strength Explained." Concrete International, Vol. 35 (11).

A11. Lindgard, J., Sellevold, E.J., Thomas, M.D.A., Pederson, B., Justnes, H., Ronning, T.F. 2013. "Alkali-silica reaction (ASR) – performance testing: influence of specimen pre-treatment, exposure conditions and prism size on concrete porosity, moisture state and transport properties." Cement and Concrete Research, V. 53, pp. 145-167.

A12. Lindgard, J., Thomas, M.D.A., Sellevold, E.J., Pederson, B., Andic-Cakir, O., Justnes, H., Ronning, T.F. 2013. "Alkali-silica reaction (ASR) – performance testing: influence of specimen pre-treatment, exposure conditions and prism size on alkali leaching and prism expansion." Cement and Concrete Research, V. 53, pp. 68-90

A13. Riding, K., Thomas, M.D.A. and Folliard, K.J. 2013. "Apparent Diffusivity Model for Concrete Containing Supplementary Cementitious Materials." ACI Materials Journal, V. 110, No. 6, November-December, pp. 705-714.

A14. Dhole, R., Thomas, M.D.A., Folliard, K.J. 2013. "Characterization of Fly Ashes for Sulfate Resistance." ACI Materials Journal, V. 110, pp.159-168.

A15. Thomas, M.D.A., Barcelo, L., Blair, B., Cail, K., Delagrave, A. and Kazanis, K. 2012. "Lowering the Carbon Footprint of Concrete by Reducing Clinker Content of Cement." Transportation Research Record: Journal of the Transportation Research Board, No. 2290, pp. 99-104.

A16. Lopez-Calvo, H.Z., Montes-Garcia, P., Kondratova, I., Bremner, T.W. and Thomas, M.D.A. 2012. "Epoxy-coated bars as corrosion control in cracked reinforced concrete." Materials and Corrosion, Vol. 63, pp. 1-10.

A17. Thomas, M.D.A. and Bremner, T. 2012. "Performance of lightweight aggregate concrete containing slag after 25 years in a harsh marine environment." Cement and Concrete Research, Vol. 42, pp. 358-364.

A18. Thomas, M.D.A., Hooton, R.D., Scott, A. and Zibara, H. 2012. "The Effect of Supplementary Cementitious Materials on Chloride Binding in Hardened Cement Paste." Cement and Concrete Research, Vol. 42, pp. 1-7.

A19. Thomas, M.D.A., Hooton, R.D., Rogers, C. and Fournier, B. 2012. "50 years and still going strong: fly ash puts paid to ASR." Concrete International, January, pp. 35-40.

A20. Lindgard, J., Andic-Cakir, O., Fernandes, I., Ronning, T.J. and Thomas, M.D.A. 2012. "Alkali–silica reactions (ASR): Literature review on parameters influencing laboratory performance testing." Cement and Concrete Research, Vol. 42, pp. 223-243.

A21. Lopez-Calvo, H.Z., Montes-Garcia, P., Thomas, M.D.A., Bremner, T.W. 2012. "Effectiveness of CNI in slabs with a construction joint in a marine environment." Magazine of Concrete Research, Vol. 64 (4), pp. 307–316.

A22. Lopez-Calvo, H.Z., Montes-Garcia, P., Bremner, T.W., Thomas, M.D.A. and Jimenez-Quero, V. 2012. "Compressive strength of HPC containing CNI and fly ash after long-term exposure to a marine environment." Cement and Concrete Composites, Vol.34, pp.110-118.

A23. Thomas, M.D.A. 2011. "The effect of supplementary cementing materials on alkali-silica reaction: A review." Cement and Concrete Research, Vol. 41, pp. 1224-1231.

A24. Thomas, M.D.A., Bremner, T. and Scott, A.C.N. 2011. "Actual and modeled performance in a tidal zone". Concrete International, November, pp. 23-28.

A25. Thomas, M.D.A., Dunster, A., Nixon, P.J. and Blackwell, B.Q. 2011. "Effect of fly ash on the expansion of concrete due to alkali-silica reaction – Exposure site studies." Cement and Concrete Composites, Vol. 33 (3), pp. 359-367.

A26. Dhole, R., Thomas, M.D.A., Folliard, K.J. and Drimalas, T. 2011. "Sulfate resistance of mortar mixtures of high-calcium fly ashes and other pozzolans." ACI Materials Journal, Vol. 108 (6), pp. 645-654.

A27. Thomas, M.D.A., Cail, K., Blair, B., Delagrave, A., Masson, P. and Kazanis, K. 2010. "Use of low-$CO_2$ portland limestone cement for pavement construction in Canada." International Journal of Pavement Research and Technology, Vol. 3, No. 5, pp. 228-233.

A28. Hooton, R.D., Thomas, M.D.A. and Ramlochan, T. 2010. "Use of pore solution analysis in design for concrete durability." Advances in Cement Research, Vol. 22, No. 4, pp. 203-210.

A29. Thomas, M.D.A., Hooton, R.D., Cail, K., Smith, B.A. de Wal, J. and Kazanis, K.G. 2010. "Field Trials of Concretes Produced with Portland Limestone Cement." Concrete International, January, pp. 35-41.

A30. Tremblay, C., Berube, M-A., Fournier, B., Thomas, M.D.A., and Folliard, K.J., 2010. "Experimental investigation of the mechanism by which $LiNO_3$ is effective against ASR." Cement and Concrete Research, Vol. 40, pp. 583-597.

A31. Hayman, S., Thomas, M.D.A., Beaman, N. and Gilks, P. 2010. "Selection of an effective ASR-prevention strategy for use with a highly reactive aggregate for the reconstruction of concrete structures at Mactaquac generating station." Cement and Concrete Research, Vol. 40, pp. 605-610.

A32. Shehata, M.H. and Thomas, M.D.A. 2010. "The role of alkali content of Portland cement on the expansion of concrete prisms containing reactive aggregates and supplementary cementing materials." Cement and Concrete Research. Vol. 40. Pp. 569-574.

A33. Feng, X., Thomas, M.D.A., Bremner, T.W., Folliard, K.J., Fournier, B. 2010. "New observations on the mechanism of lithium nitrate against alkali silica reaction (ASR)." Cement and Concrete Research, Vol. 40, pp. 94-101.

A34. Feng, X., Thomas, M.D.A., Bremner, T.W., Folliard, K.J., Fournier, B. 2010. "Summary of research on the effect of $LiNO_3$ on alkali–silica reaction in new concrete." Cement and Concrete Research. Vol. 40, pp. 636-642.

A35. Ideker, J.H., East, B.L., Folliard, K.J., Thomas, M.D.A. and Fournier, B. 2010. "The current state of the accelerated concrete prism test." Cement and Concrete Research, Vol. 40, pp. 550-555.

A36. Ehlen, M.A., Thomas, M.D.A. and Bentz, E.C. 2009. "Life-365 Service Life Prediction Model™ Version 2.0." Concrete International, May, pp. 41-46.

A37. Cano-Barrita, P.F.de J., Marble, A.E. Balcom, B.J., García, J.C., Masthikin, I.V., Thomas, M.D.A. Bremner, T.W. 2009. "Embedded NMR sensors to monitor evaporable water loss caused by hydration and drying in Portland cement mortar". Cement and Concrete Research, Vol. 39, pp. 324-328.

A38. Fournier, B., Ideker, J.H., Folliard, K.J., Thomas, M.D.A., Nkinamubanzi, P-C. and Chevrier, R. 2009. "Effect of environmental conditions on expansion in concrete due to alkali–silica reaction (ASR)." Materials Characterization, Vol. 60, pp. 669-679.

A39. Feng, X., Balcom, B.J., Thomas, M.D.A. and Bremner, T.W. 2008. "Na and Li ion diffusion in modified ASTM C 1260 test by Magnetic Resonance Imaging (MRI)". Cement and Concrete Research, Vol. 38, pp. 1409-1415.

A40. Thomas, M.D.A., Scott, A., Bremner, T.W., Bilodeau, A. and Day, D. 2008. "Performance of slag concrete in a marine environment." ACI Materials Journal, Vol. 5, No. 6, pp. 628-634.

A41. Tremblay, C., Berube, M-A., Fournier, B., Thomas, M.D.A., Folliard, K.J., Nkinamubanzi, P.C. 2008. "Use of the accelerated mortar bar test to evaluate the effectiveness of $LiNO_3$ against alkali-silica reaction – Part 1: Pore solution chemistry and influence of various parameters." Journal of ASTM International, Vol. 5, No. 8.

A42. Tremblay, C., Berube, M-A., Fournier, B., Thomas, M.D.A., Folliard, K.J., Nkinamubanzi, P.C. 2008. "Use of the accelerated mortar bar test to evaluate the effectiveness of $LiNO_3$ against alkali-silica reaction – Part 2: Comparison with results from the concrete prism test." Journal of ASTM International, Vol. 5, No. 8.

A43. Feng, X., Balcom, B.J., Thomas, M.D.A., Bremner, T.W. 2008. "Na and Li ion diffusion in modified ASTM C 1260 test by Magnetic Resonance Imaging (MRI)." Cement and Concrete Research, in press (accepted June 2008).

A44. Thomas, M.D.A., Folliard, K., Drimalas, T. and Ramlochan, T. 2008. "Diagnosing delayed ettringite formation in concrete structures." Cement and Concrete Research, Vol. 38, pp. 841-847.

A45. Zibara, H., Hooton, R.D., Thomas, M.D.A. and Stanish, K. 2008. "Influence of the C/S and C/A ratios of hydration products on the chloride ion binding capacity of lime-SF and lime-MK mixtures." Cement and Concrete Research, Vol. 38, No. 3, pp. 422-426.

A46. Ekolu, S.O., Thomas, M.D.A., Hooton, R.D. 2007. "Implications of pre-formed microcracking in relation to the theories of DEF mechanism." Cement and Concrete Research, Vol. 37, pp 161-165.

A47. Ekolu, S.O., Thomas, M.D.A., Hooton, R.D. 2007. "Dual effectiveness of lithium salt in controlling both delayed ettringite formation and ASR in concretes." Cement and Concrete Research, Vol. 37, pp. 942-947.

A48. Thomas, M.D.A., Hopkins, D.S., Perreault, M. and Cail, K. 2007. "Ternary cement in Canada." Concrete International, Vol. 29, No. 7, pp. 59-64.

A49. Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., Ideker, J. and Rogers, C.A. 2007. "Performance limits for evaluating supplementary cementing materials using the accelerated mortar bar test." ACI Materials Journal, Vol. 104 (2), pp. 115-122.

A50. Tremblay, C., Berube, M-A., Fournier, B., Thomas, M.D.A., and Folliard, K.F. 2007. "Effectiveness of lithium-based products in concrete made with Canadian reactive aggregates." ACI Materials Journal, Vol. 104 (2), pp. 195-205.

A51. Scott, A. and Thomas, M.D.A. 2007. "Evaluation of fly ash from the co-combustion of coal and petroleum coke for use in concrete." ACI Materials Journal, Vol. 104 (1), pp 62-69.

A52. Shehata, M.H. and Thomas, M.D.A. 2006. "Alkali-release characteristics of blended cements." Cement and Concrete Research, Vol. 36, pp. 1166-1175.

A53. Ekolu, S.O., Thomas, M.D.A., and Hooton, R.D. 2006. "Pessimum effect of externally applied chlorides on expansion due to delayed ettringite formation: Proposed mechanism." Cement and Concrete Research, Vol. 36, pp. 688-696.

A54. Thomas, M.D.A., Fournier, B., Folliard, K., Ideker, J. and Shehata, M. 2006. "Test methods for evaluating preventive measures for controlling expansion due to alkali-silica reaction in concrete." Cement and Concrete Research, Vol. 36 (10), pp. 1842-1856.

A55. Tesfamariam, S., Sadri, A., and Thomas, M. 2006. "Combined stress-wave techniques to estimate concrete strength." Materials Evaluation (ASNT), 64(12): 1173-1179

A56. Nokken, M., Boddy, A., Hooton, R.D., Thomas, M.D.A. 2005. "Time dependent diffusion in concrete – three laboratory studies." Cement and Concrete Research, Vol. 36, pp. 200-207.

A57. Feng, X., Thomas, M.D.A., Bremner, T.W., Balcom, B.J. and Folliard, K.J. 2005. "Studies on lithium salts to mitigate ASR-induced expansion in new concrete: a critical review." Cement and Concrete Research, Vol. 35, pp. 1789-1796.

A58. Berube, M.A., Tremblay, C., Fournier, B., Thomas, M.D. and Stokes, D.B. 2004. "Influence of lithium-based products proposed for counteracting ASR on the chemistry of pore solution and cement hydrates." Cement and Concrete Research, Vol. 34, pp. 1645-1660.

A59. Ramlochan, T., Thomas, M.D.A. and Hooton, R.D. 2004. "The effect of pozzolans and slag on the expansion of mortars cured at elevated temperature; Part II: Microstructural and microchemical investigations". Cement and Concrete Research, Vol. 34, pp. 1341-1356.

A60. Stanish, K., Hooton, R.D. and Thomas, M.D.A. 2004. "A novel method for describing chloride ion transport due to an electrical gradient in concrete: Part 1. Theoretical description." Cement and Concrete Research, Vol. 34 (1), pp 43-49.

A61. Stanish, K., Hooton, R.D. and Thomas, M.D.A. 2004. "A novel method for describing chloride ion transport due to an electrical gradient in concrete: Part 2. Experimental study." Cement and Concrete Research, Vol. 34 (1), pp 51-57.

A62. Thomas, M.D.A. and Matthews, J.D. 2004. "Performance of PFA concrete in a marine environment – 10 year results." Cement and Concrete Composites, Vol. 26 (1), pp. 5-20.

A63. Obla, K.H., Hill, R.L., Thomas, M.D.A., Shashiprakash, S.G. and Perebatova, O. 2003. Properties of Concrete Containing Ultra-Fine Fly Ash". ACI Materials Journal, Vol. 100, pp. 426-433.

A64. Boddy, A.M., Hooton, R.D., and Thomas, M.D.A. 2003. "The effect of the silica content of silica fume on its ability to control alkali-silica reaction." Cement and Concrete Research, Vol. 33, pp. 1263-1268.

A65. Thomas, M.D.A., Rogers, C.A. and Bleszynski, R.F. 2003. "Occurrences of thaumasite in laboratory and field concrete." Cement and Concrete Composites, Vol. 25 (8), pp. 1045-1050.

A66. Ramlochan, T., Zacarias, P., Thomas, M.D.A. and Hooton, R.D. 2003. "The effect of pozzolans and slag on expansion of mortars cured at elevated temperature: Part 1: Expansive Behaviour" Cement and Concrete Research, Vol. 33, pp. 807-814.

A67. Stanish, K. and Thomas, M.D.A. 2003. "The use of bulk diffusion tests to establish time-dependent concrete chloride diffusion coefficients." Cement and Concrete Research, Vol. 33 (1), pp. 55-62.

A68. Bleszynski, R., Hooton, R.D., Thomas, M.D.A. and Rogers, C.A. 2002. "Durability of ternary blend concrete with silica fume and blast-furnace slag: laboratory and outdoor exposure site studies." ACI Materials Journal, Vol. 99, No. 5, pp. 499-508.

A69. Shehata, M.H. and Thomas, M.D.A. 2002. "Use of ternary blends containing silica fume and fly ash to suppress expansion due to alkali-silica reaction in concrete." Cement and Concrete Research, Vol. 32 (3), pp. 341-349.

A70. Thomas, M.D.A. 2001. "Using silica fume to combat alkali-silica reaction in concrete." Indian Concrete Journal, October, pp.

A71. Martin-Perez, B., Pantazopoulou, S.J. and Thomas, M.D.A. 2001. "Numerical solution of mass transport equations in concrete structures." Computers and Structures, Vol. 79, pp. 1251-1264.

A72. Gruber, K.A., Ramlochan, T., Boddy, A., Hooton, R.D. and Thomas, M.D.A. 2001. "Increasing concrete durability with high-reactivity metakaolin." Cement and Concrete Composites, Vol. 23 (6), pp. 479-484.

A73. Martin Perez, B., Zibara, H., Hooton, R.D. and Thomas, M.D.A. 2000. "A study of the effect of chloride binding on service life predictions." Cement and Concrete Research, Vol. 30 (8), pp. 1215-1223.

A74. Ramlochan, T., Thomas, M.D.A. and Gruber, K.A. 2000. "The effect of metakaolin on alkali-silica reaction in concrete" Cement and Concrete Research, Vol. 30 (3), pp. 339-344.

A75. Rogers, C.A., Grattan-Bellew, P.E., Hooton, R.D., Ryell, J. and Thomas, M.D.A. "Alkali-aggregate reactions in Ontario." Canadian Journal of Civil Engineering, Vol. 27, 2000, pp. 246-260.

A76. Shehata, M.H. and Thomas, M.D.A. "The effect of fly ash composition on the expansion of concrete due to alkali silica reaction." Cement and Concrete Research, Vol. 30 (7), 2000, pp. 1063-1072.

A77. Shehata, M., Thomas, M.D.A. and Bleszynski, R.F. 1999. "The effect of fly composition on the chemistry of pore solution." Cement and Concrete Research, Vol. 29 (12), pp. 1915-1920.

A78. Boddy, A.M., Hooton, R.D. and Thomas, M.D.A. 2000. "The effect of product form of silica fume on its ability to control alkali-silica reaction." Cement and Concrete Research, Vol. 30 (7), 2000, pp. 1139-1150.

A79. Pantazopoulou, S., Bonacci, J., Sheikh, S., Thomas, M.D.A. and Hearn, N. 2001. "Repair of Corrosion-Damaged Columns with FRP Wraps", J. of Composites for Construction, ASCE, Jan, 2001.

A80. Lee, C. Bonacci, J. Thomas, M.D.A, Maalej, M., Khajehpour, S., Hearn, N., Pantazopoulou, S. and Sheikh, S. 2000. "Accelerated corrosion and repair of reinforced concrete columns using CFRP sheets," Canadian Journal of Civil Engineering, Vol. 27, No. 5, 941-948.

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34. Thomas, M.D.A., Fournier, B. and Folliard, K. "Alkali-Aggregate Reaction." One-day Workshop sponsored by the Federal Highways Administration (FHWA), Raleigh, NC, and Nashville, TN, November 2012.

35. Thomas, M.D.A. "Performance of PLC Concrete: Fresh, Hardened and Durability Properties." Transportation Research Board Webinar on *Portland Limestone Cement (PLC) - A Technology To Improve The Sustainability of Concrete Pavements*, November 2012.

36. Thomas, M.D.A. and Moffatt, E. "Durability of Rapid-Strength Concrete Produced with Ettringite-Based Cements." Anna Maria Workshop XIII *Unconventional Concretes*, Holmes Beach, FL, November 2012.

37. Thomas, M.D.A. and Hossack, A. "Concrete Pavements Containing PLC & SCM - Performance Review After 3 & 4 Years." Technical Session on *Emerging Technologies* ACI Fall Convention, Toronto, ON, October 2012.

38. Thomas, M.D.A. "Durability of Low-Carbon Concrete Produced by PLC and SCM." Technical Session on *Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete* ACI Fall Convention, Toronto, ON, October 2012.

39. Thomas, M.D.A. and Smith, D. "The Durability of Concrete Containing Ground Recycled Fiberglass as a Pozzolan." Technical Session on *Natural Pozzolans - Renaissance of a Proven Technology* ACI Fall Convention, Toronto, ON, October 2012.

40. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Washington, DC, Sept 2012.

41. Thomas, M.D.A. "Interaction of Concrete with the Environment" and "Performance Testing." Nanocem PhD Seminar, University of Barcelona, June 2012.

42. Thomas, M.D.A. "Predicting the Service-Life of Reinforced Concrete Structures Exposed to Chlorides." New York Thruway – Tappan Zee Bridge Seminar, Albany, NY, June 2012.

43. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Denver, CO, June 2012.

44. Thomas, M.D.A. "Alkali-Silica Reaction: Certainties, Misconceptions, and Paradoxes." Keynote Lecture at the 14th International Conference on Alkali-Aggregate Reactions, Austin, TX, May 2012.

45. Thomas, M.D.A. and Folliard, K.J. "New Perspective on Concrete Durability in Hawaii." 1-day Seminar for Cement and Concrete Products Industry of Hawaii, Honolulu, HI, March 2012.

46. Thomas, M.D.A. "Impact of Calcium on ASR: Distribution, Movement, Availability, and Age." Technical Session on *Alkali-Aggregate Reaction* at ACI Spring Convention, Dallas, TX, March 2012.

47. Thomas, M.D.A. "Deterioration of Concrete Exposed to Potassium Acetate & Other Anti-Icing/De-Icing Chemicals." PhD Seminar, Ecole Polytechnique Federal Lausanne, Switzerland, January 2012.

48. Thomas, M.D.A. "Equivalent Performance with Reduced Clinker Using Blended Limestone-Slag Cement." Transportation Research Board Annual Meeting, Washington, DC, January 2012.

49. Thomas, M.D.A. "Concrete Specs Gone Wild" and "Trends in Cement Composition and Opportunities of Blended Cements for Concrete". Annual Meeting of Cement and Concrete Products Industry of Hawaii, Maui, October 2011.

50. Thomas, M.D.A. "Use of Fly Ash to Prevent Expansion due to Alkali-Silica Reaction in Concrete Dams." Canadian Dam Association Annual Conference, Fredericton, NB, October 2011.

51. Thomas, M.D.A. "Case Studies on Dams." EPFL Seminar on Alkali-Aggregate Reaction, Ecole Polytechnique Federal Lausanne, Switzerland, September 2011.

52. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Washington, DC, September 2011.

53. Thomas, M.D.A. "Alkali-Silica Reaction: The Role of Silica." Workshop on Expansive Reactions in Cement-Based Materials, Oregon State University, July 2011.

54. Wilson, M.L. and Thomas, M.D.A. "Supplementary Cementitious Materials For Use in Concrete." CONEXPO – CON/AGG, Las Vegas, March 2011.

55. Thomas, M.D.A. "Portland Limestone Cement." *Ibid.*

56. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", On-line webinar training course for the National Ready-Mix Concrete Association (NRMCA), Sept. 2010.

57. Thomas, M.D.A., Cail, K. and Barcelo, L "Low-Clinker Cements: Bridging the Gap with Limestone." Anna-Maria Workshop XI, Holmes Beach, Florida, Nov. 2010.

58. Thomas, M.D.A. "Evaluating the Durability of Concrete Containing Lightweight Synthetic Particles." Open Paper Session, ACI Fall Convention, Pittsburgh, October 2010.

59. Thomas, M.D.A., Folliard, K.J., Scrivener, K. and McPhee, D. Two-day course on "Supplementary Cementing Materials" for Ecole Polytechnique Federal Lausanne (EPFL), Switzerland, June 2010.

60. Thomas, M.D.A. "Alkali-Silica Reaction". University of Toronto Course on *Cement Chemistry*, Toronto, May 2010.

61. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Charlotte, NC, May 2010.

62. Thomas, M.D.A., Dunster, A., Nixon, P.J. and Blackwell, B.Q. "Effect of fly ash on the expansion of concrete due to alkali-silica reaction – Exposure site studies." RILEM Seminar on AAR, Ponte Delgado, Azores, March, 2010.

63. Thomas, M.D.A., Hayman, S., Perry, V., O'Neil, E. and Green, B. "Performance of Reactive Powder Concrete (RPC) in a Marine Environment." Technical Session on Ultra High Performance Concrete, ACI Spring Convention, Chicago, March 2010.

64. Thomas, M.D.A. and Folliard, K.J. "The Do's and Don'ts of Concrete Durability". *World of Concrete Convention*, Las Vegas, February 2010.

65. Thomas, M.D.A. "Reducing Cement Emissions using Portland Limestone Cement." *American Concrete Institute Strategic Development Council*, Denver, October 2010.

66. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Washington, DC, September 2009.

67. Thomas, M.D.A. and Folliard, K.J. "Concrete in a Marine Environment", 1-day course for Hawaiian construction industry, Honolulu, June 2009

68. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 2-day course for the National Ready-Mix Concrete Association (NRMCA) in Austin, TX, February 2009.

69. Thomas, M.D.A. and Folliard, K.J. "Using SCM's for Durable and Sustainable Concrete". *World of Concrete Convention*, Las Vegas, February 2009.

70. Thomas, M.D.A. "Blended cements for durable concrete in hot climates.", *New Cements and their Effect on Concrete Performance*, Cairo, Dec. 2008

71. Thomas, M.D.A. "Durability of SCM Concrete" *Marie Curie Training Course 5 Sustainability of cementitious materials*, Research Institute of the German Cement Works Association (VDZ) Düsseldorf, Germany, Dec. 2008.

72. Thomas, M.D.A. and Folliard, K.J. One-day course on "Supplementary Cementing Materials" for *ACI Virginia Chapter*, November 2008.

73. Thomas, M.D.A. One-day course on "Concrete Durability" for *Lafarge North America*, Atlanta, October 2008.

74. Thomas, M.D.A. and Folliard, K.J. "The Do's and Don'ts of Concrete Durability." One-day course for *Capitol Cement*, San Antonio, October 2008.

75. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability." Two-day course for *National Ready-Mix Concrete Association (NRMCA)*, Washington D.C., Sept. 2008

76. Thomas, M.D.A. Lectures on "Concrete in Extreme Conditions", "Methods to Minimize Corrosion", "Troubleshooting", and "Innovative Concrete Applications" Joint ASCE/NRMCA Course on *Designing High Performance Concrete Structure*, San Francisco, July 2008.

77. Thomas, M.D.A. Lectures on (i) Supplementary Cementing Materials and (ii) Concrete Durability for *ACBM/PCA Undergraduate Faculty Enhancement Workshop*, Chicago, July 2008.

78. Thomas, M.D.A. and Folliard, K.J. "Concrete Durability", 1-day course for Hawaiian construction industry, Honolulu, June 2009

79. Thomas, M.D.A. and Folliard, K.J. "The Do's and Don'ts of Concrete Durability". *World of Concrete Convention*, Las Vegas, January 2008.

80. Thomas, M.D.A. "Alkali Silica Reaction, Your Questions Answered" Keynote Speaker at The ACI Greater Michigan Chapter *Alkali Silica Reaction Seminar and Round Table Discussion*, Detroit, Sept. 2007.

81. Thomas, M.D.A. "Alkali-Silica Reaction in Concrete Pavements." *Michigan Concrete Pavement Association*, Lansing, MI, August 2007.

82. Thomas, M.D.A. and Folliard, K.J. Five-day course on "Concrete Durability" for *Ecole Polytechnique Federal Lausanne (EPFL)*, Switzerland, June 2007.

83. Thomas, M.D.A. "Diagnosing Delayed Ettringite Formation in Concrete Structures", Keynote Lecture, *11th EuroSeminar on Microscopy Applied to Building Materials*, Porto, Portugal, June 2007.

84. Thomas, M.D.A. "Are the Codes Sufficient to Ensure Durable Concrete." ACI Spring Convention, *123 Forum: Is This Concrete Durable Enough?*, April 2007.

85. Thomas, M.D.A. "Lithium Treatment of ASR." Federal Highways Administration, April 2007.

86. Thomas, M.D.A. and Folliard, K.J. One-day course on *Chemical Admixtures* for Roanoke Cement, March 2007

87. Thomas, M.D.A. and Folliard, K.J. Three-day course on *Chemical Admixtures* and *Alkali-Aggregate Reaction* for Lafarge North America, March 2007

88. Thomas, M.D.A. "Methods for Mitigation Alkali-Silica Reaction". ACPA Northwest Paving Seminar, Couer D'Alene, Idaho, March 2007.

89. Thomas, M.D.A. "Concrete Gone Wild." Ready-Mixed Concrete Association of Ontario, *Concrete College*, Feb 2007.

90. Thomas, M.D.A. "Who cares about Coulombs anyway?" ACI Atlantic Chapter and APRMCA Joint AGM and Annual Conference, St John, Feb 2007.

91. Thomas, M.D.A. "Lithium Treatment of ASR-Affected Concrete", Transportation Research Board *Annual Meeting*, Jan 2007.

92. Thomas, M.D.A. "Chloride Diffusion Coefficients: Are they useful and what do they mean?" Anna Maria Workshop VII *Sustainability in the Cement & Concrete Industry*, Oct 2006.

93. Thomas, M.D.A. and Folliard, K.J. Two-day course on *Chemical Admixtures* for Lafarge North America, September 2006.

94. Thomas, M.D.A. "High-Volume Fly Ash Concrete in Green Buildings." Engineering Foundation Conference on *Sustainability in the Cement and Concrete Industry*, Davos, Switzerland, July 2006

95. Thomas, M.D.A. "Durability of Concrete with Calcium Aluminate Cement." *CAC Workshop*, Villars, Switzerland, June 2006.

96. Thomas, M.D.A. "Alkali-Silica Reaction". University of Toronto Course on *Cement Chemistry*, Toronto, May 2006.

97. Thomas, M.D.A. Two-day course on *Blended Cements* for Lafarge North America, April 2006.

98. Thomas, M.D.A. Presentations on "Chlorides & Corrosion", "ASR", and "Sulfate Attack." Portland Cement Association, Course on *Ternary Cement Blends*, Skokie, March. 2007.

99. Thomas, M.D.A. ACI Atlantic Chapter, *Annual Conference*, Halifax, Feb 2006.

100. Thomas, M.D.A. "Supplementary Cementing Materials: Benefits and Limitations." CIRCA Seminar on *Responsible Use of SCM's in Performance-Based Specifications*:-
    - Vancouver, Jan. 2006
    - Winnipeg, Jan 2006
    - Montreal, March 2006

101. Thomas, M.D.A. Presentations on "Fly Ash", "Slag", and "Durability of Concrete containing Supplementary Cementing Materials." Portland Cement Association, Regional Technical Program,
    - Seattle, Oct. 2005.
    - Charlotte, Oct 2006

102. Thomas, M.D.A. "Influence of chloride thresholds on the service life of concrete structures." National Association of Corrosion Engineers Conference, Halifax, Sept 2005.

103. Thomas, M.D.A. Courses on (i) Chemical Admixtures and (ii) Chloride Ingress & Corrosion for ACBM/PCA Undergraduate Faculty Enhancement Workshop, Chicago, June 2005.

104. Thomas, M.D.A. "High-Performance Concrete Using Ternary Cement." Seminar organized by Elkem Materials:-
    - Jeju Island, S. Korea, Oct. 2005
    - Bangkok, June 2005
    - Hanoi, June 2005

105. Thomas, M.D.A. "Blended Cements." International Cement Microscopy Association Seminar, Victoria, BC

106. Thomas, M.D.A. "Achieving 100-Year Service Life with Multiple Protection Strategies." ACI Spring Convention, New York City, April 2005.

107. Thomas, M.D.A. "Field Validation of Life-365." ACI Spring Convention, New York City, April 2005.

108. Thomas, M.D.A. "Test Methods for Evaluating the Efficacy of ASR Prevention Strategies." International Center for Aggregates Research Annual Meeting, Austin, TX, April 2005.

109. Thomas, M.D.A. "Durability of Slag Cement Concrete." Seminar organized by the Slag Cement Association, Cleveland, OH, Feb. 2005

110. Thomas, M.D.A. "Supplementary Cementing Materials: Benefits and Limitations." CIRCA Seminar on *Responsible Use of SCM's in Performance-Based Specifications*:-
    - Calgary, Feb. 2005
    - Edmonton, Feb 2005
    - Fredericton, March 2005

111. Thomas, M.D.A. "Performance Specifications: What You Need vs. What You Can Measure", ACI Atlantic Chapter Annual Conference, Fredericton, NB, Feb. 2005.

112. Thomas, M.D.A. "Using SCMs in Concrete." Seminar on *Concrete Thinking for a Sustainable Future*, organized by the Cement Association of Canada, Halifax, NS, Nov. 2004.

113. Thomas, M.D.A. "Role of Pozzolans in Concrete." C2P2 Seminar, American Coal Ash Association:-

- Las Vegas, Sept. 2004
- Austin, Sept. 2004
- Atlanta, Nov. 2004
- Louisville, Nov. 2004

114. Thomas, M.D.A. "High-Performance Concrete." Seminar on *New Concrete Technology: Uses and Applications*, organized by Cemex, Mexico City, Sept. 2004.

115. Thomas, M.D.A. "Lessons Learned from BRE's Exposure Site in the Thames Estuary, U.K." CANMET/ACI International Workshop on *Concrete in the Marine Environment*, Aug. 2004.

116. Thomas, M.D.A. Courses on (i) SCM, (ii) Aggregates and (iii) Chloride Ingress & Corrosion for ACBM/PCA Undergraduate Faculty Enhancement Workshop, Chicago, July 2004.

117. Thomas, M.D.A. "The Use of Ground Granulated Blastfurnace Slag in Concrete." Seminar for Lafarge North America, Seattle, June 2004.

118. Thomas, M.D.A. Presentations on (i) SCM and (ii) Test Methods for Seminar organized by New Brunswick Department of Transportation, Fredericton, NB, June 2004.

119. Thomas, M.D.A. Two-day seminar on *Concrete Durability* organized by Portland Cement Association, Chicago, June 2004.

120. Thomas, M.D.A. Presentation on Alkali-Silica Reaction for *Cement Chemistry Course* at University of Toronto, May 2004.

121. Thomas, M.D.A. "The Use of SCMs in Concrete." Seminars for Lafarge North America, Kansas City and Nebraska, May 2004

122. Thomas, M.D.A. Presentations on (i) Delayed Ettringite Formation and (ii) High-Volume Fly Ash Concrete at University of Texas in Austin, TX, April 2004.

123. Thomas, M.D.A. "High-Volume Fly Ash Concrete." ACI Alberta Chapter Annual Conference:
    - Calgary, April 2004
    - Edmonton, April 2004

124. Thomas, M.D.A. "Use of Lithium to Control DEF." RILEM Meeting, Chicago, March 2004.

125. Thomas, M.D.A. "High-Volume Fly Ash Concrete." ECOSMART Seminars:
    - Ottawa, March 2004
    - Halifax, March 2004

126. Thomas, M.D.A. Presentations on (i) Alkali-Silica Reaction: A Historical Perspective, (ii) Service-Life Prediction, (iii) Test Methods for ASR and (iv) Effect of Fly Ash Composition on the Field Performance of Concrete Containing Reactive Aggregates, ACI Spring Convention, Washington DC, March 2004.

127. Thomas, M.D.A. "Ternary Blended Cements" seminar for Illinois DOT organized by Lafarge North America, Chicago, Feb 2004.

128. Thomas, M.D.A. "Use of Lithium to Control Expansion in Existing ASR-Affected Structures", ACI Atlantic Chapter Annual Conference, St. Johns, NL, Feb 2004.

129. Thomas, M.D.A. (with K.J. Folliard) One-day symposium on "Use of Lithium in Concrete". Federal Highways Administration:
    - Harrisburg, PA, Jan 2004
    - Dover, DE, Jan 2004

130. Thomas, M.D.A. (with M.L. Wilson) Two-day seminar on *Concrete Structures* at University of Toronto, Nov. 2003.

131. Thomas, M.D.A. (with K.J. Folliard) One-day symposium on "Use of Lithium in Concrete". Federal Highways Administration
    - Austin, TX, Oct 2003
    - Los Angeles, CA, Sept. 2003
    - Sacramento, CA, June 2003
    - Burlington, VT, June 2003
    - Lincoln, NE, May 2003

132. Thomas, M.D.A. "Use of Lithium Compounds in Combination with Pozzolans and Slag for Controlling Expansion due to Alkali-Silica Reaction". ACI Fall Convention, Boston, Sept. 2003.

133. Thomas, M.D.A. "Delayed Ettringite Formaition: The Lab. vs. The Field". ACI Fall Convention, Boston, Sept. 2003.

134. Thomas, M.D.A. "High-Performance Concrete", ACI Atlantic Chapter Annual Conference, Charlottetown, PEI, Feb 2003

135. Thomas, M.D.A. "Ternary Blended Cements in Concrete." Atlantic Provinces Ready-Mixed Concrete Association AGM, Halifax, NS, Feb 2003

136. Thomas, M.D.A. "Minimizing the Risk of DEF in Heat-Cured Concrete", ACI Technical Session on Delayed Ettringite Formation: Where Are We Today? ACI Fall Convention, Phoenix, October 2002.

137. Fournier, B., Stokes, D.B. and Thomas, M.D.A. "Comparative Field and Laboratory Investigations on Use of Lithium to Control Expansion due to Alkali-Silica Reaction (ASR) in Concrete", ACI Technical Session on Research in Progress, ACI Fall Convention, Phoenix, October 2002.

138. Thomas, M.D.A. "Durability Case Studies". Lafarge/PCA/CTL Durability Experts Meeting, Portland Cement Association, Skokie, Il, October 2002.

139. Thomas, M.D.A. "Short-Term Testing for Long-Term Prediction", Keynote Lecture at RILEM TC-178 Workshop on Testing and Modelling Chloride Ingress into Concrete, Madrid, Spain, Sept. 2002.

140. Thomas, M.D.A. "Case Studies of DEF", Keynote Lecture at RILEM Workshop on Internal Sulfate Attack and Delayed Ettringite Formation", Villars, Switzerland, Sept. 2002.

141. Thomas, M.D.A. "Durability of Fly Ash Concrete", Invited Lecture at Lafarge's Central Research Laboratory (LCR), Lyon, France, Sept. 2002.

142. Thomas, M.D.A. "The Role of Calcium in the Alkali-Silica Reaction", Invited Lecture at University of Illinois at Urbana-Champaign, August 2002.

143. Thomas, M.D.A. "Maturity – Best 50 Minutes", ACBM Faculty Enhancement Workshop, Northwestern University, Evanston, Il, July 2002.

144. Thomas, M.D.A. "Use of High-Volume Fly Ash", Gypsum and Fly Ash Conference, Toronto, Ont., June 2002.

145. Thomas, M.D.A. Four lectures as part of One-Day ACI Educational Seminar on Use of Supplementary Cementing Materials in Concrete, Portland, Oregon, May 2002.

146. Thomas, M.D.A. Six lectures as part of Two-Day PCA Course on Ternary Cement Blends, Skokie, Il, April/May 2002.

147. Thomas, M.D.A. and Bentz, E.C. "Life-365: A Model for Predicting the Service-Life and Life-Cycle Costs of Reinforced Concrete Exposed to Chlorides", Technical Session at ACI Spring Convention, Detroit, Mi, April 2002.

148. Thomas, M.D.A. "The use of fly ash in concrete." Two One-Day Seminars organized by Sask Power, Saskatoon and Regina, Saskatchewan, April 2001.

149. Thomas, M.D.A. "The Use of Slag in Concrete" Half-Day Seminar organized by Lafarge North America, Nashville, Tn, March 2002.

150. Thomas, M.D.A. "Alkali-Silica Reaction in Concrete", Invited presentation to the Arizona Pool and Spa Industry Meeting, Phoenix, Az, March 2002.

151. Thomas, M.D.A. "Life-365: A Model for Predicting the Service-Life and Life-Cycle Costs of Reinforced Concrete Exposed to Chlorides", Invited presentation to PCA Meeting, Skokie, Il, March 2002.

152. Thomas, M.D.A. and Stokes, D.S. "Use of Lithium to prevent ASR in Concrete", ACI/FHWA Seminar on Concrete Durability, Topeka, Ka, February 2002.

153. Thomas, M.D.A., Bleszynski, R.F., Hooton, R.D. and Rogers, C.A. "Durability of Ternary-Blend Concrete: Laboratory and Outdoor Exposure Studies", TRB Annual Meeting, Transportation Research Board, Washington D.C., January 2002.

154. Thomas, M.D.A. "Results of Research Conducted at the Building Research Establishment", TRB Workshop on the Use of Lithium to Mitigate Alkali-Silica Reaction, TRB Annual Meeting, Transportation Research Board, Washington D.C., January 2002.

155. Thomas, M.D.A. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Meeting of the ACI Western New York Chapter, Syracuse, NY, December 2001.

156. Thomas, M.D.A. and Stokes, D.S. "Use of Lithium to prevent ASR in Concrete", ACI/FHWA Seminar on Concrete Durability, Santa Fe, NM, December 2001.

157. Thomas, M.D.A. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Invited presentation at Minnesota Concrete Conference, St. Paul, Mn, November 2001.

158. Thomas, M.D.A. "Role of Pozzolans in Concrete – Permeability, Chloride Diffusion and Service Life." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Concord, NH, November 2001.

159. Thomas, M.D.A. "Determining Air-Void Parameters in Fresh and Hardened Concrete Using CT-Scanning Technology", Presentation at ACI's Strategic Development Council, Boston, November 2001.

160. Thomas, M.D.A. and Hooton, R.D. "Diffusion Characteristics of Ternary Blend Concrete Mixtures", Technical Session at ACI Fall Convention, Dallas, Tx, October 2001.

161. Thomas, M.D.A. "Predicting the Residual Service Life of Reinforced Concrete Structures Exposed to Chlorides", Invited presentation at ACI/ICRI Seminar on Condition Evaluation of Existing Concrete Structures Prior to Repair, Dallas, Tx, October 2001.

162. Thomas, M.D.A. "Use of Slag to Control ASR", Invited presentation at ASR Seminar organized by Dutch Department of Roads, Hertogenbosch, Netherlands, October 2001.

163. Thomas, M.D.A. "Issues related to the Durability of Concrete Structures exposed to Chlorides", Seminar organized by ACI Ontario Chapter, Materials & Manufacturing Ontario, and Cement Association of Canada, Toronto, September 2001.

164. Thomas, M.D.A. "Service Life Modelling", ACBM Faculty Enhancement Workshop, Bolder, Co, July 2001.

165. Thomas, M.D.A. "The Use of Lithium to Control ASR in Concrete." Meeting organized by Euclid, Montreal, June 2001.

166. Thomas, M.D.A. "Role of Pozzolans in Concrete – Resistance to Sulfate Attack and Alkali-Silica Reaction." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Ponoma, California, June 2001.

167. Thomas, M.D.A. "Role of Pozzolans in Concrete – Resistance to Sulfate Attack and Alkali-Silica Reaction." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete organized for CALTRANS, Sacramento, California, June 2001.

168. Thomas, M.D.A. "Durability of Fly Ash Concrete". Meeting of the Rocky Mountain ACI Chapter, Denver, May 2001.

169. Thomas, M.D.A. "Life-365 Service Life and Life Cycle Cost Analysis of Reinforced Concrete Exposed to Chlorides". Presentation to RILEM Technical Committee 178, Paris, May 2001.

170. Thomas, M.D.A. "Use of Fly Ash in North America". Meeting of Lafarge's Fly Ash Task Group, Lyon, France, May 2001.

171. Thomas, M.D.A. "The Use of Lithium to Control ASR in Concrete." ACI Strategic Development Council Meeting, Albuquerque, New Mexico, May 2001.

172. Thomas, M.D.A. "Role of Pozzolans in Concrete – Permeability, Chloride Diffusion and Service Life." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Atlanta, May 2001.

173. Thomas, M.D.A. "Role of Pozzolans in Concrete – Permeability, Chloride Diffusion and Service Life." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Charlotte, May 2001.

174. Thomas, M.D.A. "Preventing corrosion and alkali-silica reaction in concrete". Durability Seminar organized by the Ready-Mix Concrete Association of Ontario (RMCAO), Ottawa, May 2001.

175. Thomas, M.D.A. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Seminar organized by the Concrete Corrosion Inhibitors Association, Chicago 2001.

176. Thomas, M.D.A. "The use of fly ash in concrete." Fly Ash Seminar organized by Lafarge Canada Inc., Winnipeg, April 2001.

177. Thomas, M.D.A. "All you need to know about concrete durability". Engineering Foundation Endowed Lectureship, University of Texas at Austin, March 2001.

178. Thomas, M.D.A. "Modelling the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Engineering Foundation Endowed Lectureship, University of Texas at Austin, March 2001.

179. Thomas, M.D.A. "Preventing corrosion and alkali-silica reaction in concrete". Durability Seminar organized by the Ready-Mix Concrete Association of Ontario (RMCAO), London, March 2001.

180. Thomas, M.D.A. "Delayed ettringite and sulphate durability issues." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Dallas, February 2001.

181. Thomas, M.D.A. "Delayed ettringite and sulphate durability issues." CANMET/ACI/FHWA Seminar on Use of Pozzolans and Superplasticizers in Concrete, Houston, February 2001.

182. Thomas, M.D.A. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Meeting of the ACI Western New York Chapter, Buffalo, February 2001.

183. Thomas, M.D.A. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chlorides". Seminar at Halsall, Toronto, January 2001.

184. Thomas, M.D.A. "Modifying Life-365 to deal with repairs on existing structures". Presentation to ACI SDC Consortium at Master Builders, Cleveland, January, 2001.

185. Thomas, M.D.A. "Preventing corrosion and alkali-silica reaction in concrete". Durability Seminar organized by the Ready-Mix Concrete Association of Ontario (RMCAO), Toronto, January 2001.

186. Thomas, M.D.A. "Concrete durability: recent developments in materials and modeling." Meeting of the Greater Michigan ACI Chapter, January 2001.

187. Thomas, M.D.A. and Bentz, E.C. "Predicting the service-life and life-cycle costs of reinforced concrete structures exposed to chloride environments". Engineering Foundation Conference – Advances in Cement and Concrete, Mt. Tremblant, August 2000.

188. Thomas, M.D.A. "Predicting life cycle costs for reinforced concrete structures." CSCE Nationwide Discussion Forum on Infrastructure, September 2000.

189. Thomas, M.D.A. "Studies on delayed ettringite formation – minimizing the risk." PCI/FHWA/FIB Conference on High-Performance Concrete, Orlando, September 2000.

190. Deveau, A. and Thomas, M.D.A. "Fiber-reinforced expansive concrete." ACI Fall Convention, Technical Session Sponsored by Committee 544, Toronto, October 2000.

191. Thomas, M.D.A. and Wiese, D. "Analysis of air voids in fresh and hardened concrete by x-ray tomography." ACI Fall Convention, Technical Session Sponsored by TAC Technology Transfer Committee, Toronto, October 2000.

192. Thomas, M.D.A., Bonacci, J. and Millman, I. "The use of CFRP wraps fpr corrosion-damaged concrete columns." ACI Fall Convention, Technical Session Sponsored by Committees 345 & 440, Toronto, October 2000.

193. Thomas, M.D.A. and Bentz, E.C. "Development of a standard service life and life cycle cost model for reinforced concrete exposed to chlorides." ACI Fall Convention, Technical Session Sponsored by Committee 365, Toronto, October 2000.

194. Thomas, M.D.A. "Deicer salt scaling resistance of fly ash concrete – the lab vs. the field". ACI Fall Convention, Technical Session Sponsored by Committee 232, Toronto, October 2000.

195. Bleszynski, R.F., Hooton, R.D. and Thomas, M.D.A. "Durability of ternary blends." ACI Fall Convention, Technical Session Sponsored by Committee 201, Toronto, October 2000.

196. Thomas, M.D.A. "The role of calcium hydroxide in alkali-silica reaction." Workshop on Calcium Hydroxide, Anna Maria Island, Fla., November 2000.

197. Thomas, M.D.A. "The effect of fly ash on the service life and life cycle costs of reinforced concrete structures." Meeting of the American Coal Ash Association, Milwaukee, November 2000.

198. Thomas, M.D.A. "The durability of concrete – effect of pozzolans and slag." Meeting of the ACI Austin Chapter, Texas, November 2000.

199. Thomas, M.D.A. "The durability of concrete – effect of pozzolans and slag." Meeting of the ACI San Antonio Chapter, Texas, November 2000.

200. Thomas, M.D.A. "Pore solution composition in mortars containing lithium hydroxide." Seminar at the Building Research Establishment, Watford, U.K., December 2000.

201. Thomas, M.D.A. "Salt scaling resistance of fly ash concrete." Presentation to ACI Committee 232, ACI Spring Convention, San Diego, March 2000.

202. Thomas, M.D.A. "Are temperature limits necessary for precast concrete?" Presentation at Technical Session (sponsored by ACI Committee 308), ACI Spring Convention, San Diego, March 2000.

203. Thomas, M.D.A. "Mechanisms of ASR". ACI Spring Convention, Technical Session Sponsored by Committee 236, Philadelphia, March 2000.

204. Thomas, M.D.A. "Effect of FRP wraps on corrosion of steel" Presentation at Technical Session (sponsored by ACI Committee 445), ACI Spring Convention, San Diego, March 2000.

205. Thomas, M.D.A. "Use of fly ash in high-performance concrete." In-house seminar at Lafarge Canada Ltd., Seattle, March 2000.

206. Thomas, M.D.A. "New Canadian concrete technology." New York Construction Materials, Annual Concrete Technical Conference, Albany, March 2000.

207. Thomas, M.D.A. "Life-cycle costs." Ready-Mix Concrete Association of Ontario, Concrete College, March 2000.

208. Thomas, M.D.A. "Use of silica fume and fly ash in high-performance concrete." In-house seminar at Lafarge Canada Ltd., Winnipeg, January 2000.

209. Thomas, M.D.A. "Service-life predictions and life-cycle cost estimates for reinforced concrete structures." Transportation Research Board Annual Meeting, Washington DC, January 2000.

210. Thomas, M.D.A. "Long-term transport properties of fly ash and slag concrete." Symposium on Mineral Admixtures, ASTM, New Orleans, December 1999.

211. Thomas, M.D.A. and Stanish, K. "Relationship between ionic diffusivity and fluid permeability in concrete." Symposium of the Materials Research Society, Boston, November 1999.

212. Thomas, M.D.A. "Service life and life-cycle cost modelling for concrete structures." Presentation to Marshall Macklin Monaghan Ltd. (Consulting Engineers), Toronto, November 1999.

213. Thomas, M.D.A. "Service life and life-cycle cost modelling for concrete structures." Presentation to Read Jones Christoffersen Ltd. (Consulting Engineers), Toronto, November 1999.

214. Thomas, M.D.A. "Input parameters for service-life models." International Conference on Ion and Mass Transport in Concrete, University of Toronto, October 1999.

215. Thomas, M.D.A. "Corrosion of steel in concrete." Meeting of the Sealant, Waterproofing and Restoration Institute (SWRI), Toronto, September 1999.

216. Thomas, M.D.A. "Service life and life-cycle cost modelling for concrete structures." Seminar on High-Performance Concrete, Ontario Chapter of the American Concrete Institute, Toronto, September 1999.

217. Thomas, M.D.A. "Use of lithium to control expansion due to ASR in concrete." Seminar at the Building Research Establishment, Watford, U.K., August 1999.

218. Thomas, M.D.A. "Use of silica fume and fly ash in high-performance concrete." In-house seminar at Lafarge Canada Ltd., Calgary, May 1999.

219. Thomas, M.D.A. "The effect of silica fume on the properties of concrete." Seminar for the Greater Toronto Airport Authority, Toronto, June 1999.

220. Thomas, M.D.A. "Use of silica fume in high-performance concrete." In-house seminar at Lafarge Canada Ltd., Halifax, May 1999.

221. Thomas, M.D.A. "Service life and life-cycle cost modelling for concrete structures." Presentation at a meeting of Strategic Development Council of the American Concrete Institute, Chicago, May 1999.

222. Thomas, M.D.A. "Time-dependent diffusion in concrete." Gordon Research Conference, Barga, Italy, May 1999.

223. Thomas, M.D.A. "Use of lithium compounds to control expansion due to ASR." Presentation to Canadian Standards Association Sub-Committee on ASR, Niagara-on-the-Lake, April 1999.

224. Thomas, M.D.A. "Use of silica fume in high-performance concrete." In-house seminar at Lafarge Canada Ltd., Fredericton, April 1999.

225. Thomas, M.D.A. "Use of silica fume in concrete." In-house seminar at Innocon Inc., Toronto, March 1999.

226. Thomas, M.D.A. "The production of concrete for the Confederation Bridge." Presentation at the Spring Meeting of the American Concrete Institute, Chicago, March 1999.

227. Thomas, M.D.A. "The use of multi-component cementitious systems in high-performance concrete." Presentation at the Spring Meeting of the American Concrete Institute, Chicago, March 1999.

228. Thomas, M.D.A. "Laboratory tests for ASR – Are they really worth a dam." Presentation at the Spring Meeting of the American Concrete Institute, Chicago, March 1999.

229. Thomas, M.D.A. "Fly ash composition and ternary blends." Minnesota Concrete Council, Minneapolis, February 1999.

230. Thomas, M.D.A. "Service Life Modelling." Presentation to Master Builders' Technical Activities Committee, Cleveland, February

231. Thomas, M.D.A. "Use of decrepitated spodumene for controlling expansion due to ASR." TRB Meeting, Washington D.C., January 1999.

232. Thomas, M.D.A. "Use of the accelerated mortar bar test for evaluating the efficacy of mineral admixtures for controlling expansion due to alkali-silica reaction." ASTM Symposium on Developments in Test Methods for Alkali-Silica Reaction, Tennessee, Dec. 1998.

233. Thomas, M.D.A. "The use of ternary cementitious blends in concrete." Presentation to Lafarge Technical Managers, Montreal, Dec. 1998.

234. Thomas, M.D.A. "Effect of supplementary cementing materials on delayed ettringite formation." Presentation to Lafarge Technical Managers, Montreal, Dec. 1998.

235. Thomas, M.D.A. "High-performance concrete." Presentation to Acres International, Niagara Falls, Nov. 1998.

236. Thomas, M.D.A. "Chloride modelling." Presentation at NIST Workshop on Service-Life Modelling, Nov. 1998.

237. Thomas, M.D.A. "Use of silica fume and fly ash." Technical courses presented to Lafarge in Moncton (Nov 1998), Calgary (May 1998), and Toronto (Nov 1997).

238. Thomas, M.D.A. "Issues related to service-life modelling." Engineering Foundation Conference on Advances in Cement and Concrete, Banff, July 1998.

239. Thomas, M.D.A. "Ternary cement blends." Engineering Foundation Conference on Advances in Cement and Concrete, Banff, July 1998.

240. Thomas, M.D.A. "Use of reclaimed slurry water in concrete." CSA A23 Meeting, Banff, May 1998.

241. Thomas, M.D.A. "Durability of concrete containing ternary cementitious blends." CANMET International Symposium on Sustainable Development, Toronto, April, 1998

242. Thomas, M.D.A. "High-performance concrete." Trow Managers Meeting, Toronto, Feb. 1998.

243. Thomas, M.D.A. Presentations on (i) chloride modelling, (ii) effect of fly ash on alkali-silica reaction and (iii) delayed ettringite formation – issues in North America, at Lafarge's Corporate Research Centre in Lyon, France, Feb. 1998.

## GRADUATE STUDENTS/THESES SUPERVISION

Includes students enrolled at the University of New Brunswick (UNB), University of Toronto (UofT), the University of Texas in Austin (UTA) and the Norwegian University of Science and Technology (NTNU).

*Post-Doctoral Fellows*

| Name | Project | Commenced | Completed |
|---|---|---|---|
| S. Shashiprakash, UofT | Studies of fly ash in concrete | 1996 | 2000 |
| M. Shehata, UofT | Test methods for ASR | 2001 | 2002 |
| A. Scott, UNB | Post-Doctoral Research Fellow – Corrosion Studies | 2003 | 2005 |
| P. Wang, UNB | Post-Doctoral Research Fellow - ASR and DEF in Concrete | 2006 | 2007 |
| Jesus Cano, UNB (co-supervised) | MRI studies of concrete | 2007 | 2008 |

*Doctor of Philosophy:*

| Student | Thesis Title | Commenced | Completed |
|---|---|---|---|
| B. Martin Perez, UofT (Co-supervisor) | Service Life Model for High-Performance Concrete | 1995 | 1998 |
| M. Shehata, UofT | ASR in Fly Ash Concrete | 1995 | 2001 |
| R.F. Bleszynski, UofT (Co-supervisor) | Role of ternary blends in alkali aggregate reactions in concrete | 1997 | 2002 |
| H. Zibara, UofT (Co-supervisor) | Chloride binding in concrete | 1995 | 2001 |
| T.Ramlochan, UofT | Effect of silica fume on DEF | 1997 | 2003 |

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|---|---|---|---|
| (Co-supervisor) | | | |
| K. Stanish, UofT (Co-supervisor) | Measuring chloride transport coefficients in concrete | 1999 | 2002 |
| S. Ekolu, UofT | Effect of steam-curing on concrete durability | 1999 | 2004 |
| J. Young, UNB (co-supervisor) | Use of MRI in the Study of Concrete | 2001 | - |
| X. Feng, UNB (co-supervisor) | Use of Lithium to Suppress ASR in Concrete | 2003 | 2008 |
| R. Dhole, UNB | Sulfate Resistance of Concrete | 2004 | 2009 |
| J. Ideker, UTA (co-supervisor) | Early-Age Volume Changes and Cracking of Calcium Aluminate Cement Concrete | 2004 | 2007 |
| T. Drimalas, UTA (co-supervisor) | Sulfate Attack of Fly Ash Concrete | 2004 | 2007 |
| H. Lopez, UNB (co-supervisor) | Corrosion of Steel in Cracked Concrete | 2007 | 2012 |
| S. Hayman, UNB | Deterioration of concrete by potassium acetate | 2010 | 2014 |
| Ashlee Hossack, UNB | Sulfate resistance of concrete produced with portland limestone cement | 2010 | 2015 |
| Jan Lindgard, NTNU | Alkali-Silica Reaction | 2010 | 2013 |
| Huang Yi, UNB | Deicer-Salt Scaling of Concrete | 2011 | - |
| Ted Moffatt, UNB | Performance of Ettringite Cements | 2012 | - |

***Master of Applied Science:***

| Student | Thesis Title | Commenced | Completed |
|---|---|---|---|
| R.F. Bleszynski, UofT | Role of fly ash in alkali aggregate reactions in concrete | 1994 | 1997 |

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|---|---|---|---|
| C.M. Evans, UofT | Effect of curing temperature on chloride penetration in concrete | 1994 | 1997 |
| A. Deveau, UofT | Development of a fibre-reinforced, expansive-cement based repair material for concrete | 1996 | 1998 |
| N. Or, UofT (Co-supervisor) | Effect of ASR on the durability of concrete | 1996 | 1999 |
| T. Holder, UofT | Effect of SCM's on chloride thresholds in concrete | 1996 | 1999 |
| P. Zacarias, UofT (co-supervisor) | Effect of Fly Ash on DEF | 1997 | 2001 |
| I. Milman, UofT (co-supervisor) | Effect of CFRP on the corrosion of reinforced concrete columns | 1998 | 2001 |
| S. Khajepour, UofT (co-supervisor) | Use of CFRP for repairing corroding reinforced concrete columns | 1998 | Withdrew |
| A. Boddy, UofT (co-supervisor) | Effect of silica fume dispersal on concrete durability | 1997 | 2000 |
| S. Tesfamariam, UofT | Use of stress waves for monitoring the integrity of concrete | 1997 | 2000 |
| H. Njardardottir, UofT (co-supervisor) MEng | Concrete bridge deck deterioration diagnostic tool using belief networks | 1997 | 1999 |
| A. Muhl, UofT | Effect of SCM's on the durability of lean concrete | 2000 | 2002 |
| A. Ross, UNB | Use of lithium to control ASR expansion in concrete | 2003 | 2006 |
| Donald Burden, UNB | Curing of High-Volume SCM Concrete | 2003 | 2005 |
| Rayna Luther, UNB | Data Management System for Concrete | 2003 | 2005 |
| Tanya Owens, UNB | Durability of Concrete with Class C Fly Ash | 2004 | 2013 |
| David Smith, UNB | Rapid Tests for Determining the | 2005 | 2006 |

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|---|---|---|---|
| | Transport Properties of Concrete | | |
| Ian Cosh, UNB | Test Methods for Alkali-Silica Reaction | 2006 | 2009 |
| Nick Beaman, UNB | Mitigation of Alkali-Aggregate Reaction at Mactaquac Generating Station | 2005 | 2007 |
| Christine Gilbert, UNB | Ternary Cementing Systems Containing Class C Fly Ash | 2007 | 2010 |
| Nira Rajbhandari, UNB | Use of Limestone Cements | 2007 | 2010 |
| Sean Hayman, UNB | Preventing Expansion at Macatquac G.S. | 2008 | 2010 |
| Kong-Quan Feng, UNB | Repair of Concrete Affected by ASR and DEF | 2008 | 2010 |
| Huang Yi, UNB | Durability of Calcium Aluminate Cement Concrete | 2008 | 2010 |
| Edward Moffat, UNB | Durability of Concrete produced with High-Early-Strength Cements | 2011 | - |
| Alyson Dean, UNB | Performance of Corrosion-Resistant Steels | 2012 | 2014 |

*Fourth Year Theses/Senior Reports (Undergraduate Students):*

| Student | Thesis Title | Year |
|---|---|---|
| F. Yep, UofT | The effects of W/C ratio and fly ash on the permeability of concrete | 1994 |
| S.J. Pozderka, UofT | The effect of fly ash composition on alkali-silica reaction in concrete | 1994 |
| E. Lee, UofT | Role of $Ca(OH)_2$ in alkali-silica reaction | 1995 |
| A. DiCicco, UofT | The effect of alkali-carbonate reaction on the durability of concrete | 1995 |
| G. Creer, UofT (Co-supervisor) | The effects of AAR on the mechanical properties of concrete | 1995 |

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|---|---|---|
| J. McKee, UofT | Influence of mineral and chemical admixtures on the prevention of conversion reactions in high-alumina cement | 1996 |
| S. Allman, UofT | Impregnation of AAR damaged concrete with lithium | 1996 |
| M. Stochmal, UofT | Effect of high-reactivity metakaolin (HRM) on alkali-aggregate reaction in concrete | 1996 |
| P. Siebert, UofT | The use of ternary blends to suppress ASR | 1996 |
| T. Ramlochan, UofT | Use of metakaolin to control ASR expansion | 1997 |
| C. Scott, UofT | Microstructural aspects of ASR in concrete containing fly ash | 1997 |
| H. Yip, UofT | The effect of a lithium-based admixture on ASR expansion | 1997 |
| A. Lau, UofT | The use of ternary cementitious blends - Silica fume and Class C fly ash | 1997 |
| D. Chui, UofT | The use of ternary cementitious blends - Silica fume and Class F fly ash | 1997 |
| J. Mok, UofT (Co-supervisor) | Permeability measurements using a chloride tracer | 1997 |
| Joseph Ramani, UofT (co-supervised) | Durability of concrete with ternary cement blends | 1998 |
| Mohammed Raphael, UofT | Computer animation of the construction of the Confederation Bridge | 1998 |
| Edward Leung, UofT | Effect of calcium on alkali-silica reaction | 1998 |
| Chester Chow, UofT | Effect of calcium on the properties of fly ash | 1998 |
| Joseph Lee, UofT | Effect of lithium on expansion due to alkali-silica reaction | 1998 |
| Kyle Bentley, UofT | Effect of CFRP Wraps on Corrosion of Steel in Concrete | 1999 |
| Will Rodrigues, UofT | Use of Chemically-Activated Fly Ash Concrete | 1999 |
| Benjie Cheung, UofT | Service Life Prediction and Life-Cycle Costs | 1999 |

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|---|---|---|
| | Analysis of Reinforced Concrete | |
| Oswin Li, UofT | Permeability of High-Performance, Light Weight Aggregated Concrete | 1999 |
| Sam Ling, UofT | Diffusivity of High-Performance, Light Weight Aggregated Concrete | 1999 |
| Christino Young, UofT | Use of Fly Ash in High-Performance, Light Weight Aggregated Concrete | 1999 |
| Jerome Abarquez, UofT | Use of Blended Fly Ash for Controlling ASR | 2000 |
| Dan Kocic, UofT | Diffusion in Concretes Containing Silica Fume and Slag | 2000 |
| David Lee, UofT | Use of Shrinkage Reducing Admixtures | 2000 |
| Evelyn Yu, UofT | Strength Gain in Heat-Cured Mortars Containing Silica Fume and Fly Ash | 2000 |
| Amy Muhl, UofT | Ternary Blends for Controlling DEF | 2000 |
| Mike Paulo, UofT (co-supervised) | Effect of Accelerated Curing on Diffusion in Concrete | 2000 |
| Raffy Turla, UofT | Effect of Elevated Temperature on Concrete Durability | 2000 |
| Ryan Cuddy, UofT | Service Life and Life-Cycle Cost Analysis for Concrete Structures | 2000 |
| Simon Lan, UofT | Use of Shrinkage Reducing Admixtures | 2000 |
| Frode Olsen, UofT | Quality Control Software for Ready-Mixed Concrete. | 2001 |
| Kyming Chan, UofT | Use of HPC as a corrosion protection strategy | 2001 |
| Yikman Tong, UofT | Accelerated Tests for Alkali-Silica Reaction | 2001 |
| Remmy Chu, UofT | Accelerated Tests for Alkali-Silica Reaction | 2001 |
| Ryan Jenik, UofT | Use of High-Volume Fly Ash in Concrete | 2001 |
| Donald Burden, UNB | Effect of Curing on Scaling of Roller-Compacted Concrete | 2003 |
| Tanya Owens, UNB | Test Method for Low-Permeability Cement | 2003 |

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|---|---|---|
| Adam D'Entremont, UNB | Effect of Chemical and Mineral Admixtures on Sulfate Resistance of Concrete | 2003/4 |
| David Smith, UNB | Effect of E-Glass on Concrete Properties | 2003/4 |
| David Whithers, UNB | Measuring Permeability of Cement Paste using a Centrifuge | 2003/4 |
| Boris Simic, UNB | Effect of Construction Practices on Scaling Resistance of Concrete | 2003/4 |
| Ian Cosh, UNB | Use of Electrochemical Techniques for Lithium Impregnation of Concrete | 2004 |
| Nick Beaman, UNB | Self-Consolidating Concrete: Methods of Test | 2005 |
| Justin Audibert, UNB | Direct Electrical Curing of Concrete | 2005 |
| David Nowak, UNB | Effect of Electrochemical Lithium Treatment on Bond Strength in ASR-Affected Concrete | 2010 |
| Andrew Fahim, UNB | Monitoring Corrosion of Steel in Concrete | 2015 |

Note: BSc Thesis removed as a mandatory requirement at UNB in 2006!

*PhD Examination Committees (Final SGS Exam only – not including students supervised).*

Agbogun, H. 2011. "Three-dimensional measurement of porosity and solute-concentration distributions during diffusion in porous geologic media using X-ray micro-computed tomography." PhD Thesis, University of New Brunswick.

Khatibi, M. 2010. "Parameters Influencing Flow-Accelerated Corrosion (FAC) in the Secondary Side of Nuclear Power Plants." PhD Thesis, University of New Brunswick.

Battler, M. 2008. "Development of an anorthositic lunar regolith stimulant: OB-1" PhD Thesis, University of New Brunswick.

Petrunica, B. 2007. "A detailed investigation of the aqueous geochemistry and mineralogy of tungsten mine tailings, Mount Pleasant, New Brunswick." PhD Thesis, University of New Brunswick.

Snow, Monica. 2006. "Fracture development in engineered wood product bolted connections." PhD Thesis, University of New Brunswick.

LaPlante, Gabriel. 2004. "Moisture effects on the adhesive epoxy material in bonded composite sandwich panels." PhD Thesis, University of New Brunswick.

Montes, Pedro. 2003. "Performance of corrosion inhibitors and epoxy coatings in cracked reinforced concrete subjected to a marine environment." PhD Thesis, University of New Brunswick.

Cano Barrita, Jesús. 2002. "Curing of high-performance concrete in hot dry climates studied using magnetic resonance imaging." PhD Thesis, University of New Brunswick.

## COURSES TAUGHT IN PRECEDING 5 YEARS

| Course # | Title | Year | Enrolment |
|---|---|---|---|
| CE 2512* | Materials for Civil Engineers | W10, W11, W14, W15 | 60 - 100 |
| CE 5503/6503** | Concrete Technology | F10, F11, F13, F14 | 10 - 45 |
| CE 4973 | Team Design Project | F09 | 24 |
| CE 6563** | Repair of Concrete Structures | W14, F16 | 7 |
| CE 6573** | Advanced Concrete Materials | W08, W13 | 5 |
| CE 6583** | Chemistry of Cement and Concrete | W10, W11, W13 | 4 |
| CE 6593** | Analytical Techniques for Cement and Concrete | W11, F14 | 4 |

*Updated existing course
**New course